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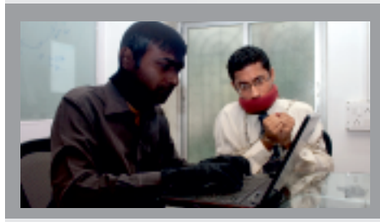

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Which? RIGHT CHOICE

INDEPENDENT EXPERT ADVICE YOU CAN TRUST

OUR PROMISE

Right Choice aims to help you choose the best goods and services — and avoid the worst. We are completely impartial — we take no ads or freebies, and we pay full price for everything we test. So we can tell it like it is, without fear or favour, to help you make the right decisions first time, saving you time, money and hassle.

OUR TESTS

No other organisation tests as thoroughly as we do. You can trust our opinion because it is based on robust, rigorous research. We look at every aspect of product performance and specification. We compare price, running costs, efficiency and durability against exacting criteria. You can read more details about how we test in each individual report.

OUR RATINGS

RIGHT CHOICE — This coveted award goes to products that perform well in our rigorous tests and excel in all main measures, achieving high total test scores.

WRONG CHOICE — This highlights products that perform extremely poorly in one or more key tests, with very low total test scores.

GREAT VALUE — This award goes to Right Choices that are outstandingly well priced as well as perform well in our tests.

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Rommel Albuquerque

VIDEO GA GA

If you're planning to buy a camcorder to record your Diwali festivities, we tell you which one to buy and how to get the best out of it

Camcorders are great for recording those special moments that will be treasured for years. With the growing popularity of high-definition (HD) televisions, it was only a matter of time before HD camcorders broke into the mainstream too. We have tested eight HD camcorders and 14 standard-definition camcorders for this test.

Although more expensive than standard-definition models, HD camcorders are a cut above. They look like standard-def camcorders from the outside, but inside their sensors can record more detail. Most can record 1,080 horizontal lines that make up a video image, compared with a standard-def model's 576 lines. This means you see more fine detail, feel a greater sense of depth, and enjoy better sharpness. Colours are often better, too.

To make the most of an HD camcorder, you need a good, large HDTV. If you don't have an HDTV, you can still use a standard TV, but you won't benefit from your HD camcorder's better video quality.

In years gone by, recording on tape was most popular. Now, most models record on either an internal hard disk or a memory card – many offer both options. Some camcorders use blank 8cm DVDs for recording.

We take a look at the most popular recording formats and explain the pros and cons of each opposite.

What you should look for

IMAGE STABILISATION

The slightest hand movement can make your video shaky, especially when you've zoomed far in. Image stabilisation works to counter this. Keep it turned on unless you're using a tripod.

OPTICAL ZOOM

Helps you get closer to the action. 10x is enough for most, though more can come in handy. Digital zoom can supplement optical, but video quality will suffer.

STILL PHOTOS

Most camcorders can take still photos. The quality is still short of what you can expect from a good digital camera, but the gap is closing.

WIND FILTER

This cuts out wind noise significantly. However, it can sometimes cut other sound, so if there's no wind, switch this function off if you can.

GAIN/BACKLIGHT COMPENSATION

Gain lets you brighten up a picture that's too dark. Backlight compensation brightens up something positioned in front of a bright background.

NIGHT MODE

This gives you a brighter picture, although it sometimes also results in jerky movements of moving objects

VIDEO LAMP

Helps to illuminate your subject, provided it's within 1.5 metres.

RECORDING FORMATS

MINI-DV

Pros Mini-DV has been around for years — although it's becoming much less popular now. Mini-DV models are usually cheap, as are Mini-DV tapes (around Rs200 for a 60-minute tape). Mini-DV footage is accepted by all major editing software and usually retains higher video quality after editing.
Cons Carrying around lots of tapes can be a hassle, as is fast-forwarding and rewinding.

DVD

Pros DVD-based camcorders allow you to record straight to an 8cm disc, which you can play on a DVD player or computer. As with tapes, however, carrying DVDs around can be a hassle.
Cons They usually have short recording times (around 20 minutes per disc at the highest recording quality in standard definition, and about 15 minutes in HD), although many DVD camcorders accept Dual Layer (DL) discs that almost double these times.

HARD DISK

Pros Using a camcorder with a built-in hard-disk means you can do away with tapes and DVDs. Hard disks can store more than seven hours of footage.
Cons Once you use up the space, you must delete something, or transfer the footage to a computer.

MEMORY CARD/INTERNAL FLASH MEMORY

Pros These are usually the lightest and smallest camcorders. A 4GB card costs around Rs500, and can store roughly 40 minutes of footage.
Cons The smallest memory-card models usually have pretty small optical zooms.

HOW TO BUY

Our reviews found that more expensive camcorders usually have better-quality lenses and sensors, leading to better image quality and overall performance. This is reflected in our ratings.

A range of camcorders from the same manufacturer often contains two or three that are very similar. The camcorders may have the same lenses and sensors but, say, different capacity hard disks. Or one may have an attachment for a separate microphone or a video lamp whereas others don't.

EASY TO USE?

When we test camcorders, our panel of assessors rates each aspect of how easy they are to use (see 'How we test', p21).

However, ease of use is largely determined by how comfortable a camcorder feels for you — and this is very personal. Try out any camcorder you're interested in before buying, to make sure it 'feels right' in your hand.

The position of the strap, weight and dimensions all have a big influence.

It can be the best camcorder in the world, and fine for most people, but if you don't find it comfortable you won't want to use it. Make sure you're happy with the position of the main buttons, too.

LEFT-HANDED CAMCORDERS

Most camcorders, like a lot of equipment, seem to suit right-handed people more than left-handed — another reason why it's a good idea to handle a camcorder before you buy it.

If you're left-handed and not so good with your right, you may prefer a small model with a memory card, as these are lighter and generally easier to handle in the left hand.

Right Choice camcorders

Recording format Hard disk (60GB), memory card
Size 7.5x9.5x14cm
Weight 640g
Optical zoom 12

79% SONY HDR-SR11

RIGHT CHOICE **For outstanding video quality**
Rs58,995

Sony's HDR-SR11 is a fantastic high-definition camcorder that captures superb footage in various conditions. It is very quick to focus, offers good sound quality, and you can record to either a memory card or the 60GB hard disk (giving you about 430 minutes of recording time at the highest quality). It has a 12x optical zoom. There's very little noise disturbance from the zoom and other operational buttons when recording, but the wind filter is relatively ineffective. The zoom microphone works well in picking up distant sound, though. Battery life is decent, the monitor is clear and the remote control works well, though it is pretty heavy.

Recording format Memory card, flash memory
Size 6.5x8x13cm
Weight 430g
Optical zoom 12

76% CANON HF10

RIGHT CHOICE **For still photos**
Rs70,400

Weighing 430g, the Canon HF10 is heavier than many standard-definition models, yet is one of the lighter HD camcorders available. The optical zoom is 12x . The similarly proportioned standard-definition Canon FS10 (10) and FS100 (11) both incorporate a 37x optical zoom. The HF10 truly shines over the FS10 and FS100, however, with its crisp, vivid image quality. Even in panning shots images stay sharp and clearly defined. Colour definition is very good. It's unfortunate, then, that the HF10 doesn't boast better sound. Bass is rather thin, and overall sound is underwhelming. It comes with an internal flash memory of 16GB, though it also takes SD memory cards.

Recording format Hard disk (60GB)
Size 7.5x8.5x12.5cm
Weight 440g
Optical zoom 10

76% PANASONIC HDC-HS9

RIGHT CHOICE **For a compact hard-disk model**
Rs49,995

The HDC-HS9 captures great movies in high definition, storing them on its large 60GB hard disk (460 minutes at top recording quality). We found that the quality of the picture is wonderful, both indoors and out, with the only minor criticism being that the focus isn't so sharp when zooming in dim light. It picks up sound well, with very little disturbance from any of the mechanisms. The wind filter noticeably reduces the whistling of the wind, which is particularly useful, as an external microphone can't be attached to this model. The zoom microphone, which is tied in with the 10x optical zoom, isn't as effective as some of the other models we've tested.

Recording format Memory card
Size 6.5x7.5x12.5cm
Weight 330g
Optical zoom 10

76% PANASONIC HDC-SD9

RIGHT CHOICE **For a quick, lightweight HD model**
Rs45,785

The SD9 is very similar to the HS9 (left), but footage is recorded to an SD memory card instead of an internal hard disk. As with most memory-card models, no card is included in the box, so you'll need to buy one separately. This is reflected in the SD9's lower price. Video and sound quality are virtually identical to the HS9, although the SD9 is quicker to start up. From a completely off position, it is ready to shoot in 4.2 seconds, versus 6.5 seconds for the HS9. In fact, the SD9 is the quickest camcorder we tested to start up, making it a great choice for spontaneous shooting. The SD9 lasts 119 minutes on a single charge. It is also the lightest HD model we tested.

Recording format Memory card
Size 6.5x8x13cm
Weight 430g
Optical zoom 12

75% CANON HF100

RIGHT CHOICE **For still photos**
Rs69,300

If you like the sound of the Canon HF10 (opposite) , the HF100 may also be worth considering. The two models are virtually identical, but the HF100 has no internal flash memory — just a memory-card slot for SD memory cards. None is included, so you'll need to buy one separately. They are cheap, though — a 16GB SD card costs around Rs1,950. However, the HF10, with its 16GB internal memory, costs Rs850 less than the HF100 with a 16GB SD card — and it has the convenience of internal memory.

Recording format DVD
Size 9.5x8x13.5cm
Weight 600g
Optical zoom 10

75% CANON HR10

RIGHT CHOICE **For recording footage straight to DVD**
Rs74,350

Canon's HR10 is a great choice if you're after a DVD camcorder. Video quality is high, both indoors and out, and still images are very good for a camcorder. The sound quality is also impressive and the autofocus is great in dim light, when most camcorders struggle. It records to DVD-RW or DVD-R. It's very versatile, and provides more manual functions for still photography than many entry-level digital cameras. There's also a remote control, which is easy to use and operable over a reasonable distance, and a built-in video lamp to illuminate dark scenes. A charged battery will give you 101 minutes of recording time. Like most DVD camcorders, however, it's quite slow to start recording after being switched on — more than 10 seconds.

Recording format Memory card/Flash memory
Size 7x8x14cm
Weight 500g
Optical zoom 10

70% SAMSUNG VP-HMX20C

RIGHT CHOICE **For a very good HD camcorder without spending too much**
Rs49,900

This relatively compact Samsung is reasonably affordable and delivers crisp image quality and very good colour reproduction. It's not light (500g), but it still fits neatly into your hand. The impressive image quality is a real draw. In broad daylight it gives excellent results, coping well with complex shadow contrasts and subtle colour distinctions. Even indoors in dim light, it acquits itself well. Sound is good without being first class. Crucially, you don't hear the workings of the camcorder itself. It has an internal flash memory of 8GB, which is a good start, but for long filming sessions, you'll definitely want to buy extra SD memory cards.

HOW WE TEST

Our exclusive precision tests use state-of-the-art equipment, rating each of the camcorders for video quality, ease of use and more. Here, we take a look at how we test video quality and battery life.

VIDEO QUALITY

We examine video quality under different light conditions and different settings, using test charts, real-life recordings and specially configured scenes. Image sharpness, colour fidelity and absence of noise (random speckles of colour) are three of the things we look for in good video. To assess quality, we use a projector to blow up each video to about 2.2 metres wide. At this size, even the smallest flaws are visible.

We also measure how quickly and how reliably the camcorder autofocuses on different scenes and objects. We measure at different zoom settings, and in various light conditions (dim lighting and a fully zoomed-in lens can cause many camcorders problems when autofocusing).

We test the image stabilisation system using a specially set-up camcorder shaker that mimics the tiny, barely noticeable movements that a hand makes, even when you're trying to keep still.

BATTERY LIFE

Before testing battery life, we 'condition' the camcorder's battery to make it a fair test. We fully charge it, then discharge it, then charge it again.

We then put the camcorder on a rotating turntable, with various objects of different sizes at different distances from the camcorder. With autofocus, image stabilisation and the LCD on, we measure how long the camcorder records on a single charge. We do this indoors, under consistent lighting conditions.

Recording format Hard disk (30GB)
Size 7.5x8.5x14cm
Weight 480g
Optical zoom 10

68% PANASONIC SDR-H280

RIGHT CHOICE **For great standard-definition video quality**
Rs36,995

The SDR-H280 is an excellent choice if you want a standard-definition camcorder, perhaps because you don't have an HDTV set. It captures sharp movies, both indoors and out, and is the closest of all our standard-definition camcorders to matching the video quality produced by our Right Choice HD models. Autofocus works reliably, even when zooming in dim light. It is quick, too, which is handy if you're filming a scene with lots of objects at different distances. The sound is also good, although some mechanical noises — such as the zoom and the disk drive — are sometimes picked up by the internal microphone. It has 30GB of hard-disk storage (holding 420 minutes of footage recorded at the highest quality setting). Battery life is excellent. We managed 143 minutes of recording on a single charge.

JARGON BUSTER

We translate the complex language of camcorders.
AUTOFOCUS Nearly all camcorders allow you to focus manually, and though this is sometimes useful, a good automatic focusing (autofocus) system helps you focus quickly and accurately.
AVCHD This is an HD format that captures footage more efficiently, and makes editing slightly easier. It is commonly found on high-definition hard-disk, DVD and memory-card camcorders.
CHARGE-COUPLED DEVICE (CCD) Every digital camcorder has a sensor inside that picks up the picture. The most common type is CCD. Some camcorders have three CCDs – these usually offer better video quality but are more expensive.
FIREWIRE Camcorders that record on Mini-DV tape usually have a FireWire connection. FireWire is the best way to transfer Mini-DV footage from your camcorder to your computer for editing, as it's quick and retains high original image quality.
PANNING The technique of moving your camcorder from left to right or vice versa to film across a scene.

	MODEL	SPECIFICATION											TEST PERFORMANCE								SCORE %
		PRICE (Rs)	RECORDING FORMAT	HARD-DISK SIZE (GB)	HARD DISK RECORDING TIME (mins)	SIZE (hxwxd) (cm)	WEIGHT (g)	OPTICAL ZOOM	LCD SIZE (cm)	VIDEO LAMP	EXTERNAL MIC	VIEWFINDER	OVERALL VIDEO QUALITY	EASE OF USE	SOUND QUALITY	FEATURES	STILL PHOTOS	BATTERY LIFE	IMAGE STABILISATION	AUTOFOCUS	
HIGH DEFINITION																					
1	**SONY HDR-SR11**	58,995	HDD/MC	60	430	7.5x9.5x14	640	12	8.1	✓	✓	✓	★★★★★	★★★★	★★★	★★★★	★★★★	★★★	★★★★★	★★★★	79
2	**CANON HF10**	70,400	MC/FL			6.5x8x13	430	12	6.6	✓	✓	✗	★★★★	★★★★	★★★	★★★	★★★★	★★★	★★★★	★★★★	76
3	**PANASONIC HDC-HS9**	49,995	HDD	60	460	7.5x8.5x12.5	440	10	6.9	✓	✗	✗	★★★★★	★★★	★★★	★★★★	★★★	★★★★	★★★★★	★★★	76
4	**PANASONIC HDC-SD9**	45,785	MC			6.5x7.5x12.5	330	10	6.9	✓	✗	✗	★★★★★	★★★★	★★★	★★★	★★★	★★★★	★★★★★	★★★	76
5	**CANON HF100**	69,300	MC			6.5x8x13	430	12	6.6	✓	✓	✗	★★★★	★★★★	★★★	★★★	★★★★	★★★	★★★★	★★★★	75
6	**CANON HR10**	74,350	DVD			9.5x8x13.5	600	10	6.9	✓	✗	✓	★★★★	★★★	★★★★	★★★	★★★★	★★★★	★★★★	★★★★	75
7	**SAMSUNG VP-HMX20C**	49,900	MC/FL			7x8x14	500	10	6.6	✗	✓	✗	★★★★	★★★	★★	★★★	★★★★	★★★	★★★★	★★★★	70
8	**CANON HV30**	70,500	Mini-DV			8.5x10x14	610	10	6.6	✓	✓	✓	★★★★	★★★	★★	★★★★	★★★★	★★	★★★	★★★★	61
STANDARD DEFINITION																					
9	**PANASONIC SDR-H280**	36,995	HDD	30	420	7.5x8.5x14	480	10	6.9	✓	✗	✗	★★★★	★★★	★★★	★★★	★★★	★★★★★	★★★★★	★★★	68
10	**CANON FS10**	24,850	MC/FL			6x6.5x12.5	310	37	6.6	✓	✓	✗	★★★	★★★	★★★	★★	★★★	★★★★★	★★★★	★★★	58
11	**CANON FS100**	21,825	MC			6.x6.6x12.5	310	37	6.6	✓	✓	✗	★★★	★★★	★★★	★★	★★★	★★★★★	★★★★	★★★	58
12	**CANON DC330**	26,160	DVD			9x7x12.6	430	37	6.6	✗	✗	✓	★★★	★★★	★★	★★	★★	★★★	★★★★	★★★	52
13	**SONY DCR-HC62**	15,995	Mini-DV			8.5x7x11.5	460	25	6.6	✗	✗	✓	★★	★★★	★★	★★★	★★	★★★★	★★	★★★	51
14	**CANON DC320**	22,050	DVD			9x7x12.7	430	37	6.6	✗	✗	✓	★★★	★★★	★★	★★	★★	★★★	★★★★	★★★	49
15	**CANON DC310**	17,580	DVD			9x7x12.5	430	37	6.6	✗	✗	✓	★★★	★★★	★★	★★	★★	★★★	★★	★★★	48
16	**PANASONIC SDR-H90**	27,225	HDD	80	1080	7x6.5x12.5	351	70	6.9	✗	✗	✗	★★	★★★	★★★	★★★	★★	★★★★★	★★★	★★	46
17	**PANASONIC VDR-D50**	17,795	DVD			9.5x7x14	460	42	6.9	✗	✗	✓	★★	★★★	★★★	★★★	★★	★★	★	★★	42
18	**PANASONIC SDR-S15**	17,550	MC			6x5x10.5	188	10	6.9	✓	✗	✗	★★	★★★	★★	★★	★★	★★	★★★★	★★★	41
19	**SANYO VPC-CG65**	15,970	MC			10.5x3.5x7.5	180	5	6.1	✓	✗	✗	★★	★★★	★★	★★	★★★★★	★★	★★	★	41
20	**PANASONIC SDR-S26**	17,550	MC			6.5x6.5x10.5	257	70	6.9	✗	✗	✗	★★	★★★	★★	★★	★★	★★	★★★	★★	39
21	**SANYO VPC-CA65**	17,470	MC/FL			11x4.5x9	250	5	6.1	✗	✗	✗	★★	★★★	★	★★	★★★★	★★	★	★★	39
22	**PANASONIC SDR-S7**	11,050	MC			6x4.5x10.5	190	10	6.6	✗	✗	✗	★★	★★★	★★★	★★	★★	★★	★★	★★★	37

USING THE TABLE

We tested the best-selling camcorders. Right Choices are highlighted in red (see p3). The more stars the better.

SPECIFICATION

Price The price shown is a guide as at August 4, 2009.
Recording format Recording formats that the camcorder accepts. FL = flash, HDD = hard-disk drive, MC = memory card. See 'Recording formats', p19.
Hard-disk recording time The amount of footage, recorded at the highest quality level, that the hard disk can store.
Weight Includes memory card, disc or tape, battery and hand strap.
Optical zoom The higher the number, the closer you can zoom in. 10 = 10x magnification.
Video lamp Provides additional light when the scene is dark.
External mic Whether you can attach a separate microphone for better sound quality.
Viewfinder Whether the model has an eyepiece viewfinder.

TEST PERFORMANCE

Overall video quality Tested in various light conditions, including daylight, dim light and artificial light.
Ease of use Expert views on each camcorder's portability, recording, playback, LCD, viewfinder and instruction manual.
Sound quality Performance of each camcorder's built-in microphone.
Features How useful each model's features are.
Still photos Image quality, shutter delay and start-up time of still photo function.
Battery life Based on recording time on a single charge.
Image stabilisation Reduces the effect of hand shake. Some camcorders have better systems than others.
Autofocus Reliability and speed of autofocusing system, tested in various light conditions.

SCORE

Scores for HD and standard-definition models are directly comparable. They ignore price and are based on:

Overall video quality	**40%**
Ease of use	**20%**
Sound quality	**15%**
Features	**10%**
Still photos	**10%**
Battery life	**5%**

ACCESSORIES

The box that the camcorder came in should contain all the bits you need to start shooting — for example, a battery and charger, a memory card, as well as the camcorder itself. However, there are a few extra accessories you can buy to improve your videos.

MICROPHONE

Sound quality from camcorders is typically not great. If the camcorder has a mic attachment, you can usually improve the sound by attaching a separately bought microphone. These cost around Rs 4,400 upwards. Sony camcorders usually accept only Sony microphones.

TRIPOD

A tripod is a good investment if you want your films to look polished. They are great for prolonged shooting and for shooting from a distance, when 'camera shake' is more likely to strike. With a tripod you'll be able to shoot a very steady picture. They can be great for panning, too — most have a handle allowing you to smoothly pan across.

When you're using a tripod, make sure image stabilisation is switched off for best results. Even a cheap Rs750 tripod gives better results than none at all, but make sure you get one that's tall enough for your needs.

If you think a tripod will be too cumbersome to carry around, consider a monopod (with one leg instead of three) as they're usually lighter and more portable, although not quite as stable.

LENS CONVERTER

Shooting a wide scene inside a small room is sometimes difficult with camcorders, as they don't zoom out enough to have a very wide angle of view. A wide-angle lens converter attached to the lens of some camcorders will increase your angle of view. They cost around Rs2,500 upwards. Make sure your camcorder can accept these lens converters, and that you buy the right size. Check the lens filter thread size in the manual or on the lens itself (it will be quoted in mm), and simply buy a converter of the same size. It doesn't have to be the same brand as the camcorder.

SPARE BATTERIES

A spare battery is always handy if you have a long day's shooting with no time to recharge. The average camcorder records around 95 minutes of footage on a single charge. When you choose a battery, the higher the mAh rating, the longer the life you can expect. Choose one that fits your camcorder — there are many different types. A good tip to save battery life when shooting is to turn the LCD screen off and use the viewfinder instead — if the camcorder has one.

JUST FOR YOUTUBE?

A camera might be OK, but many people in the US and UK are opting for pocket camcorders to take YouTube videos. The best-known of these is the Flip range, which includes the Flip Ultra, the even smaller Flip Mino, and the high-definition Flip Mino HD.

The idea of the Flip is to make video recording as simple as possible, so there are few features beyond straightforward record and play functions. When we tested the Flip Ultra, we found that the quality of the picture and sound was poor, and the autofocus was lamentable, judged by our normal standards. Battery life, on the other hand, puts more advanced models to shame.

The Flip's main selling point, however, is convenience. The supplied software makes uploading videos to YouTube remarkably straightforward, and it's so easy to put it in your pocket when you leave the house. The Flip Ultra retails for Rs7,400, while the Flip Mino costs Rs8,700 and the Mino HD Rs9,600.

The Flip Ultra retails for Rs7,400

CAMERAS vs CAMCORDERS

Virtually all compact cameras and a few digital SLR cameras can record video — but with some limitations

An increasing number of digital cameras, such as the Casio Exilim EX-Z400 (Right Choice, August 2009, p37), can record high-definition video.

Although this can mean an improved video resolution, there's no substitute for a proper camcorder if you're keen on capturing videos at the highest possible quality. Camcorder lenses, for example, are optimised for video, whereas camera lenses are not.

DETAIL

The relatively small lenses and image sensors on digital cameras tend to limit the detail of your videos, so you lose subtle colour distinctions, differences in shadow and highlight, and the smoothness of panning shots. Some cameras don't let you use the optical zoom while recording, or force you to mute the sound as you do so. Using digital zoom is an alternative, but that lowers video quality.

SOUND QUALITY

The small microphones built into digital cameras usually result in very poor-quality sound in your videos. Camcorders have superior built-in mics, and often allow you to attach an external mic for improved sound.

VERDICT

Digital cameras' video modes are improving, and most cameras are easier to carry around than a camcorder. They are great for short clips, perhaps for YouTube, but if what you're filming is important, a good camcorder wins every time.

HOW TO CONNECT YOUR CAMCORDER TO YOUR TV

After recording your video, you'll want to watch it on television. There are several ways of connecting your camcorder to your TV set, depending on the model.

To play back your camcorder footage, start by connecting the camcorder to your TV using one of the methods opposite.

Then select the AV channel on your TV (it may come up automatically) and set your camcorder to playback mode. Use the buttons on the camcorder or on its remote control to select the scene, playback, fast forward or rewind.

It's best to run your camcorder off the mains rather than the battery when watching.

Alternatively, if you have a DVD camcorder, you can just pop the recorded disc into your DVD player, once it's been prepared for TV, or 'finalised', in the camcorder.

COMPOSITE

Often labelled Video or AV. Your camcorder will come with a composite cable: you plug one end into your TV and the other into your camcorder. Composite is the lowest quality connection.

S-VIDEO

Only some camcorders have this. It serves the same purpose as the composite socket, but image quality may be a bit better. Some camcorders with S-video have a two-in-one composite/S-video socket. You might need to buy an S-video cable separately.

COMPONENT

This connection offers a high-quality video signal to your television. It's available only on some mid- to high-end camcorders, and again, you may need to buy a cable separately.

HDMI

This is the best quality connection for watching footage from a high-definition camcorder on an HDTV. Nearly all HD camcorders have an HDMI connection, but you usually need to buy an HDMI cable separately. These are quite expensive, at around Rs1,500.

How to record better video

One reason why professional video looks better than amateur footage is that the experts prepare before they press the record button. Try to plan a shot first rather than simply hitting 'record' and hoping for the best

CONSIDER COMPOSITION

Try to keep your subject away from the edges of your frame — in other words, away from the edges of your view on the LCD screen or through the viewfinder.

On the other hand, a subject in the centre of the frame can be uninteresting. A little to the left or right of centre usually makes for the best composition. Also, if you're filming a person, it looks nicer if they are looking inwards (ie towards the centre of the frame), especially when they're walking.

DON'T ZOOM TOO MUCH

Zooming in and out excessively can annoy viewers or even make them dizzy. It also looks unprofessional: in films and TV programmes, you'll notice that there's normally very little or no zooming. Before you start recording, consider where you will stand, set the lens at the appropriate zoom position, and then hit record.

PANNING TECHNIQUES

Try not to pan too much, as it's not easy on the eye. Even worse, panning from left to right and then immediately from right to left will make your viewers seasick. Smooth, infrequent panning works best.

Zooming in and out too much can annoy viewers

FILMING MOVING SUBJECTS

When filming moving subjects, try to end each scene on a still shot. In other words, record a little bit of footage where there's no movement at all. If your film repeatedly cuts from moving subject to another moving subject without a break, your viewers will get dizzy.

For example, if you pan the camcorder to follow a fast-moving car, ideally finish the scene by filming the empty road that the car has left behind, just for a moment or two, before recording your next fast-moving car in the next scene.

SOUND

If it's important to pick up someone's voice, stand as close to them as possible. This is especially important where there might be lots of background noise, like a busy street.

There are added dangers in recording the wrong thing. At a wedding, you might be filming the best man's speech with zoom from 15 metres away and end up recording the voice of someone one metre away from you criticising the bride's outfit.

Many built-in microphones can be set so that they operate in conjunction with the optical zoom. The more you zoom in, the more the microphone zooms in to pick up more distant sound.

FILMING IN LOW LIGHT

A dimly-lit room filled with candles, fairy lights or soft electric lighting can be a strain for many camcorders. If increasing the light in the room isn't an option, try using manual exposure to increase brightness. Or experiment with the night mode, video lamp or gain features (see 'What you should look for', p19).

SCENE MODES

Many new camcorders have scene modes which, when selected, automatically adjust the camcorder's settings to get the best results from certain conditions. On some models these include, for example, settings for fireworks and candlelight — especially handy around Diwali, for example.

Editing your videos

Step-by-step guides to help you make the best of your recordings

A camcorder is great for capturing precious memories, whether it's a party, festival or sports event.

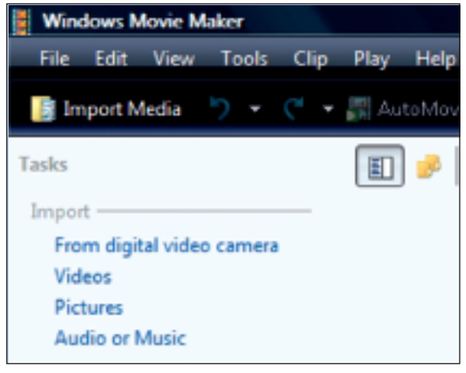
Sometimes, however, your footage may be too long, or include sections you'd rather cut. You might also like to add special effects to your videos, like transitions between scenes, titles and text, soundtracks and narratives, and alter colours and brightness.

You can also burn your footage to a DVD, complete with a menu, for viewing on TV and long-term storage, or for sending to friends and family.

Editing video really is versatile. Basic video-editing software is often pre-installed on a new computer, or is supplied with your camera or camcorder.

Windows Vista comes with Windows Movie Maker, for example. This offers most of the common functions but, if you want something with more features, you can buy a more advanced software package — Adobe Premiere Elements (Rs7,000) is one good option.

HOW TO UPLOAD VIDEO



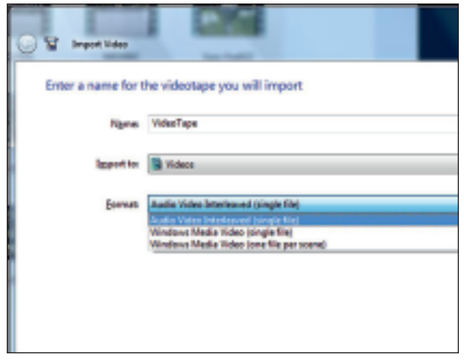
To edit your video, you'll need to transfer your footage to your computer. Here we show you how to do this using Windows Movie Maker on Windows Vista — a free but powerful package. In some cases you may be required to use the software provided with your camcorder, but the instructions will be similar.

Make sure that your video-editing software can accept the file format that your camcorder records (eg Mpeg-2, AVCHD).

Also, make sure that your computer is powerful enough to run video-editing software, especially when dealing with HD video. Check the specifications and system requirements of the software. Most camcorders come with a CD of video-editing software — this will be compatible with your footage.

Tip With every major change that you make, save a copy of your project so you don't lose it. (See p29)

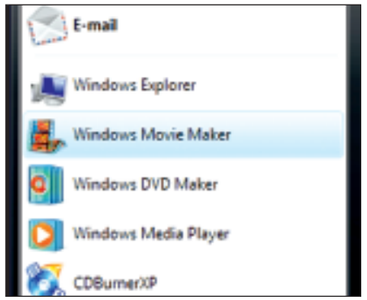
- Connect your camcorder to your computer with a USB or FireWire cable.
- Turn on your camcorder and set it to playback mode.
- A box titled **Autoplay** will appear. Click **Import video**.
- Choose where you want to save your video file from the **Import to** list.



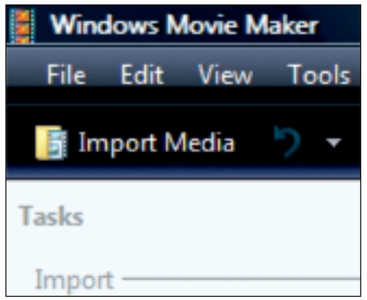
- In the **Format** list, choose which video file format you want your video to be saved as. If you want to create one file from your video, select **Windows Media File (single file)**. Click **Next**.
- Click **Import the entire videotape to my computer**. Click **Next.**
- If you want to stop importing video before the end of the tape, click **Stop** and then **Yes**.
- Click **Finish**. Your video has now been converted into a video file that you can edit.

HOW TO PUT YOUR CLIPS IN THE RIGHT ORDER

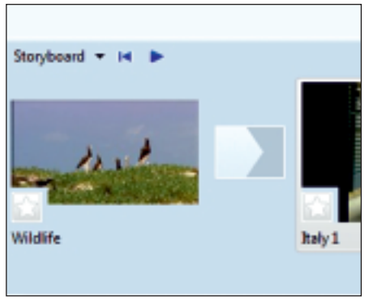
Before you can start editing your video, you need to add the clips you want to use to the **Timeline**.



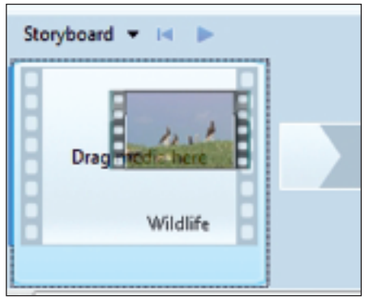
- Click the **Vista** button and select Windows Movie Maker from the **Programs** list.



- To add a clip, click **Import Media.**
- Click **Browse** and find the clip you want.
- Click **Import**.
- The clip will appear in the **Contents** pane. You can then drag it onto the **Storyboard**.



- This is the best time to put your clips in the order that you want them to be watched. Do this by dragging and dropping clips within the **Storyboard**.

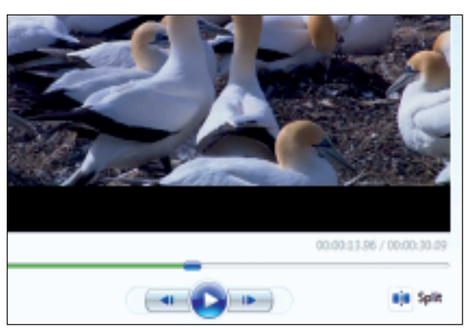


- You can drag a clip to the Storyboard. Click on a clip in the **Contents** pane, and keep the mouse button pressed down as you drag it to the **Timeline**. Let go at the location you want to drop it.

HOW TO SPLIT A CLIP

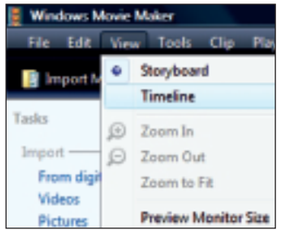
If you want to add an effect between scenes — for example, fade out and fade in — you'll need to split your clip.

- In the **Contents** pane or **Timeline** click the clip you want to split.
- Use the playback controls under the preview monitor to get to the point where you want to split the clip.
- Click **Split**.
- The two parts will now appear separately in the **Contents** pane.

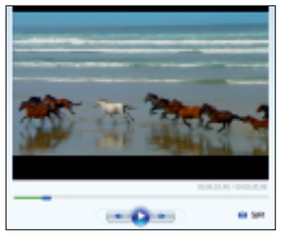


HOW TO TRIM A CLIP

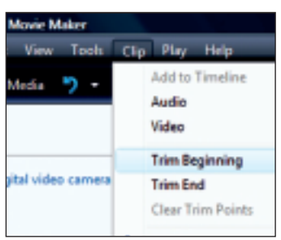
If some of your scenes are too long they can be trimmed before being edited into the whole sequence. When you trim a clip, the trimmed part isn't deleted — it's just hidden so that it doesn't appear in your final video.



- If you're in Storyboard mode, switch to Timeline mode by clicking **View** on the menu bar. In **Timeline**, click the clip that you want to trim.



- Use the playback controls under the preview monitor to get to the point where you want the clip to begin. Click the pause button.



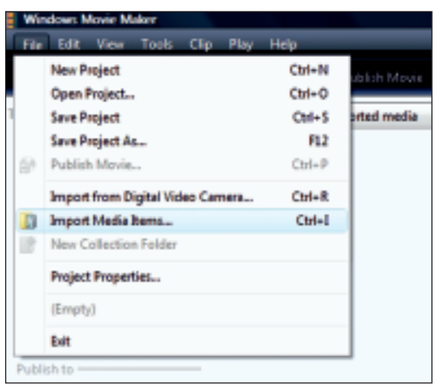
- Click **Clip** then **Trim Beginning.**
- Repeat the process for the end of the clip – but this time click **Clip** and **Trim End.**

To take your videos to the next level, you'll need to learn how to edit your clips

HOW TO ADD MUSIC TO YOUR VIDEO

First, you'll need to add the music to your computer, or find the music already stored on your computer that you'd like to use.

- Click **File**.
- Click **Import media items**.
- Find the file that you want to add and click on it.
- Click **Import.**
- The music file will appear in the Contents pane. From here, drag it to the **Timeline's** Audio/Music track.



ADDING TRANSITIONS AND MUSIC

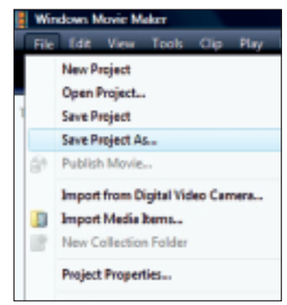
A video can look clunky if the scenes are just sandwiched together. You can avoid this by adding transitions, such as a fade-in or fade-out effect, between the clips on the Timeline.

- On the **Timeline**, click on the clip that you want to appear after the transition.
- Click **Tools**, then **Transitions**.

- In the **Contents** pane, click the transition you want to add.
- Click **Play** on the preview monitor to see a preview of what the transition will look like.
- Click **Clip**, then **Add to Timeline.**
- To return to the **Contents** pane click the arrow next to **Transitions** and select **Imported Media**.

HOW TO SAVE YOUR EDITED VIDEO

While you're editing your video it's known as a project. You should save your project regularly, so that you don't lose any of your changes should something go wrong.

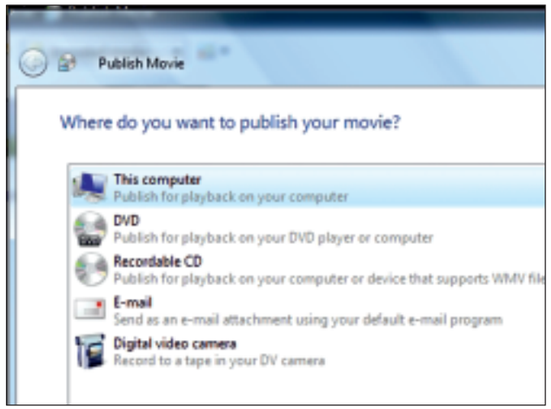


- Click **File**.
- Click **Save project as** if you haven't already given your project a name, name it and then **Save project**. If it's already named, simply click **Save project**.

HOW TO PUBLISH AND SHARE YOUR VIDEO

Saving your project just saves the settings and instructions on how you'd like your finished video to look. To create a file of your video you will need to publish your clip. Once you've published it you can't edit it. You can only edit the saved project, so make sure you're happy with it first.

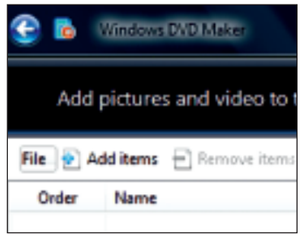
- Click **File**.
- Click **Publish movie.**
- Click **This computer** and then **Next.**
- Type a name for your movie in the box that appears.
- In the **Publish to** box choose where you want to save your movie. Your Videos folder will be selected by default. Click **Next**.
- Click **Publish** and wait while your movie is published. Depending on the length of your movie, this could take a little while.
- If you want to watch your movie once it's been published, select **Play movie when I click Finish.**
- Click **Finish**.


Publish Movie
Where do you want to publish your movie?
This computer
Publish for playback on your computer
DVD
Publish for playback on your DVD player or computer
Recordable CD
Publish for playback on your computer or device that supports WMV file
E-mail
Send as an e-mail attachment using your default e-mail program
Digital video camera
Record to a tape in your DV camera

HOW TO CREATE A DVD

To burn a movie to DVD, you need Windows DVD Maker. This is included with Vista Home Premium and Vista Ultimate. You also need a DVD burner — you may have one of these built into your computer, or you can buy a separate one to attach to your PC.

- Insert a blank recordable or rewriteable DVD into your DVD burner.
- Open Windows Movie Maker.
- Open the project you want to burn to DVD.
- Click **File**.
- Click **Publish movie**.



- Click **DVD** and then **Next**.
- A window will pop up telling you that Windows DVD Maker is about to open. Click **OK**, then **Next**.
- Click **Burn**. This may take a little while.

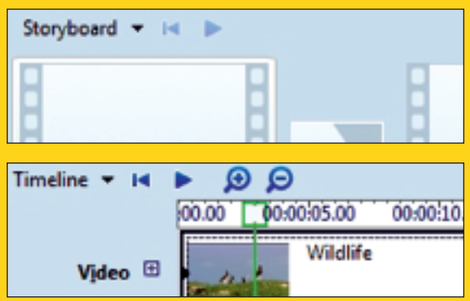
JARGON BUSTER

STORYBOARD VIEW

This is the default view in Windows Movie Maker. It shows you the order of your clips and lets you rearrange them. You can also see video effects and transitions that you've added.

TIMELINE VIEW

This gives you a more detailed view of your project and allows you to make finer edits, like adjusting the duration of transitions between clips.



TIPS

- At any point you can tweak the properties of an element of your project (clip, audio track, sound effects, transitions) by hovering the mouse cursor over it and right-clicking.
- You can add a transition by simply dragging it to the timeline and dropping it into the desired slot.
- To preview your video at any time, click on the play button.
- You can increase the size of the preview monitor by clicking and dragging the edge of the window.
- You can click on the **Zoom** icon (below) to magnify the timeline if you want to see it in more detail.